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	Titolo	Quantum Lie Theory : A Multilinear Approach / / by Vladislav Kharchenko
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
	ISBN	3-319-22704-1
	Edizione	[1st ed. 2015.]
	Descrizione fisica	1 online resource (XIII, 302 p.)
	Collana	Lecture Notes in Mathematics, , 0075-8434 ; ; 2150
	Disciplina	512.55
	Soggetti	Associative rings
		Rings (Algebra)
		Nonassociative rings
		Group theory
		Quantum theory
		Associative Rings and Algebras
		Non-associative Rings and Algebras
		Group Theory and Generalizations
		Quantum Physics
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Bibliographic Level Mode of Issuance: Monograph
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Elements of noncommutative algebra -- Poincar´e-Birkhoff-Witt basis -- Quantizations of Kac-Moody algebras -- Algebra of skew-primitive elements -- Multilinear operations -- Braided Hopf algebras -- Binary structures -- Algebra of primitive nonassociative polynomials.
	Sommario/riassunto	This is an introduction to the mathematics behind the phrase "quantum Lie algebra". The numerous attempts over the last 15-20 years to define a quantum Lie algebra as an elegant algebraic object with a binary "quantum" Lie bracket have not been widely accepted. In this book, an alternative approach is developed that includes multivariable operations. Among the problems discussed are the following: a PBW-type theorem; quantum deformations of Kac--Moody algebras; generic and symmetric quantum Lie operations; the Nichols algebras; the Gurevich--Manin Lie algebras; and Shestakov--Umirbaev operations for the Lie theory of nonassociative products. Opening with an

introduction for beginners and continuing as a textbook for graduate students in physics and mathematics, the book can also be used as a reference by more advanced readers. With the exception of the introductory chapter, the content of this monograph has not previously appeared in book form.